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ABSTRACT

The goal of this project was to evaluate the College of San Mateo's (California) current online program to ascertain how well it met the needs of current and prospective students. This initial evaluation was formative, focusing on how the institution could improve what it started. The author evaluated student satisfaction with online course methods and content; she also gathered attitude data from students who were not currently taking online courses, in an attempt to determine if an audience existed for more online offerings. Two surveys-one with Likert-type questions and one with open-ended questions-were administered to students; a total of 139 surveys were administered and collected during class time, and 20 surveys were completed by students online. One finding was that a substantial percentage of current students would consider taking online courses. This was particularly true of evening students. A second finding was that students valued good teaching and teachers more than other aspects of courses. One unexpected finding was that both on-campus and online students felt that the teacher was the most important factor for success in an on-campus course, while student study habits was the most important factor in online courses. Finally, online students rated their enjoyment of courses at nearly the same level as on-campus students. The Online Needs Assessment Survey is appended. (Author/EMH)

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ED 470 918

Evaluation of Online Curriculum at College of San Mateo

December 1998

Abstract

The goal of this project was to evaluate the current online program to get a sense of how well it meets the needs of current and prospective students. This initial evaluation was formative, focusing on how the institution can improve what it's started. I evaluated student satisfaction with online course methods and content, and gathered attitude data from students who are not currently taking online courses in an initial attempt to determine if an audience exists for more online courses.

One finding is that a substantial percentage of current students would consider taking online courses. This was particularly true of evening students. A second finding is that students value good teaching and teachers more than other aspects of courses. A surprising finding was that both on-campus and online students felt that "the teacher" was the most important factor for success in an on-campus course, while "student study habits" was the most important factor in online courses. Finally, online students rated their enjoyment of courses at nearly the same level as on-campus students.

An abbreviated version of the final report follows.

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1. Evaluation Study Design
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Evaluation Study Design

Plans and Procedures

This evaluation has two primary components: evaluating the need for the program and evaluating current program practices. Since this program is still relatively new, the results of the evaluation will inform decisions about the future of the program. The overall design, then, will be formative. This section of the report is organized around the three evaluation questions.

Q1. Are online courses needed?

A survey of eight open-ended questions was administered to students in

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day and evening on-campus classes at CSM in November 1998 to ascertain their perceived need for online courses and their interest in taking courses online. Students also reported demographic information, information about their academic background and experience in non-traditional course formats, their experience using computers, and their attitudes about using computers (see the *Online Needs Assessment Survey* in Appendix A). Four instructors were given an opportunity to conduct the surveys in their classes; two participated. 54 surveys were administered and collected by the instructors during class time.

A potential bias is introduced by collecting data from current students. Since these individuals are already served by traditional on-campus courses, unlike potential students who cannot or do not attend traditional courses, they may be biased against the need for online courses. This may be counterbalanced, or even totally offset, by the fact that current students are aware of the availability of the wide variety of courses at CSM, some of which may not be offered at times they can attend.

An interesting limitation to this part of the study is gathering data about online courses from those who do not know what they are.

Q2. What do students value in courses?

Data for answering this question comes from two sources: the survey for Question 1 above, and another survey administered to students in both traditional and online courses (see the *Course Evaluation Survey* in Appendix A). This second survey is comprised of three open-ended questions and seven Likert-type questions with accompanying open-ended items for explanations. The survey explores student attitudes and perceptions about what they like and dislike about courses. Questions were framed to elicit responses indicative of student engagement in the learning process. Eight instructors who teach both on-campus and online courses were given an opportunity to conduct the surveys in their or ask their online students to complete a web-based version of the survey; five teachers participated, making the survey available to a total of twelve on-campus and online courses. 85 surveys were administered and collected by the instructors during class time and 20 surveys were completed by students online.

The skewed number of responses from on-campus students over online students introduces significant bias into the results and reduces the significance of the findings for anything other than general guidelines for further study. In addition, the more voluntary nature of completing the online survey will quite likely bias the results towards opinions of those who are more actively engaged, and probably more satisfied, in their online course. For online students, the results are probably heavily biased towards reporting what satisfied students like about their courses, which is helpful, but not as complete as also learning what dissatisfied students think about their online courses.

Q3. Do current online courses include the features students value?

Data for answering this question also comes from the *Course Evaluation Survey* (see Appendix A). The relevant data are the 20 responses from online students on the Likert-type items described above. Again, I found a strong bias towards positive responses about online courses, but the open-ended items were helpful in analyzing what students value most in online courses.

Instrument Design

The surveys were intentionally designed with significant opportunity for respondents to describe their attitudes and explain their answers to reduce the amount of bias closed-end questions introduce into items. I was particularly interested in gaining insights about what students like and dislike about courses that we hadn't thought of in preliminary planning.

The attitude measures used in the *Course Evaluation Survey* are ordinal, suggesting a pattern of order, but not of true magnitude. I used distribution to determine general attitude patterns of students in on campus and online courses. The variables I studied included: enjoyment of a course, engagement in the subject matter, satisfaction with interactions with the teacher and with other students, a sense that the course components are well-integrated, whether the course workload is appropriate, and whether students would recommend the course to their friends. There are four measurement classes for each variable: strongly agree, agree, disagree, and strongly disagree.

The *Course Evaluation Survey* was analyzed with Item Response Theory (IRT) to help determine validity and reliability. The analysis revealed an internal consistency of 0.72, which is sufficient for instruments with a small number of items. The *Online Needs Assessment Survey* had a much smaller value for internal consistency, 0.26, although all items had reasonable INFIT t values. This may be a result of scoring the surveys, since it is comprised of open ended items.

Analysis

Although a true experimental design would be valuable, particularly for a summative evaluation, I was unable to use any method that even approximates randomization. The primary reason for this is that the College does not have authority to deny students access to online courses. As a result, student selection does not come close to random because students who self-select into online courses probably have different characteristics than students who don't.

Given this constraint, the analysis is largely correlative, searching for trends that indicate strong student preferences. Multiple regression was run on several determinant variables with various sets of independent variables to determine which had the greatest influence. In other cases, simple frequencies were adequate for determining trends for the purpose of formative evaluation of current practices. The following analyses were performed on the data:

Evaluation Results

Interpretations

These findings suggest that there is a need for providing more online courses, despite biases in the sample. Although this sample includes only current college students, the findings provide insight into the most prevalent reasons for taking courses. This information can help CSM identify unserved population groups that could benefit from additional educational opportunities provided in an online format. The finding that 52% of the students surveyed would consider taking an online course suggests that we should do more research of the population at large in

this regard, since current students may not be indicative of non-students' attitudes. Students' reasons for not considering taking online courses are nevertheless informative. Some believe they would not have as much teacher contact as they have in traditional courses; others just do not know how an online course is conducted. These findings suggest that others might consider online courses if they knew more about them.

In determining what students value in courses, I considered what students reported as "best" aspects of their courses, and what students felt were the most important factors for student success. Most students understood the importance of good study habits for success in both on-campus and online courses, and rated this factor as most important for online courses. It is interesting, however, that very few students thought teacher quality was an important factor in online courses, while they it the highest importance as a factor for success in on-campus courses. Even students familiar with online courses do not report that the teacher of an online course is a critical factor in student success. Current online students echo this finding by rating course schedule and flexibility as more important than the teacher in online courses. This may be because students are unaware of the teacher's role in an online course, or because teachers do not, in fact, influence student success, or it may reflect a bias in the sample of 20 online students. This issue could be illuminated by further study. In addition, CSM could improve the potential for success in online courses by helping students develop good study habits.

Although the vast majority of online students reported positive attitudes about their experience in online courses, this study did not provide strong evidence that current online courses meet the needs of students. First, the number of online students who participated was small, and we do not know whether these students are representative of the entire population of online students at CSM. In addition, although the *Course Evaluation* surveys completed by on-campus students include a wealth of handwritten remarks elaborating the reasons students were satisfied or dissatisfied with their courses, students who submitted the surveys were much more brief in their remarks. Again, the preliminary findings suggest that additional study be conducted to gain a better understanding of what factors contribute most to online students' satisfaction with their courses.

Conclusion

Criteria

The online education program at College of San Mateo was evaluated with respect to meeting the needs of current and potential students. Much of the analysis was exploratory to determine what contributes to students' perceived need for online courses, what students value in their educational experiences, and what factors contribute to students becoming engaged in the process of learning. The study also evaluated attitude responses from a small sample of online students to get an idea of what course features online students appreciate.

Although the study was significantly limited by the composition of the sample population, an important purpose was served in testing the two assessment instruments. Both instruments were found to have construct validity and their results can be considered reliable with moderately high values for separation reliability and Cronbach's alpha. The population bias most likely alters implications of the study, but has less of an impact

on testing the measurement tools.

The findings of this evaluation can be used to enhance teacher training production and use of online courses and to guide efforts to inform and educate students and the public about online education. As a formative evaluation, this study meets its goals.

Judgments

Q1. Are online courses needed?

This study indicates a substantial percentage of students would consider taking online courses if they were offered. Evening students in particular would consider taking courses online. The study did not solicit input from individuals who are not current students, which would provide more conclusive evidence of the need for more online courses if such a need does exist in that population. The study also did not evaluate enrollment patterns at CSM or at other local institutions to determine whether online programs have had adequate enrollments thus far.

These findings provide evidence that further study should be conducted to determine whether individuals other than current students would benefit from college courses and would consider enrolling in online courses at CSM.

Q2. What do students value in courses?

Overall, students value good teaching and good teachers most of all. Even online students rated interactions with the instructor as very important for student engagement in the learning process. Students also rated the course schedule, course content (or subject matter) and hands-on course activities as features they like best in both on-campus and online courses.

Students also agreed that student study habits are an important factor for success in on campus and online courses. Overall, students agreed that student study habits was the most important factor leading to success in online courses.

Q3. Do current online courses include the features students value?

Online students gave very positive ratings to their courses. A majority of online students would recommend the online course they are taking to a friend, and felt that they had sufficient interaction with their instructors. Online students rated their *enjoyment* of online courses at nearly the same level as on-campus students, and rated their *engagement* in online courses significantly higher than did on-campus students. 47% of online students versus 30% of on-campus students strongly agreed that the course engaged them in the subject matter. This indicates that CSM has used online courses to more successfully engage students in the learning process. Further research is suggested to validate these findings with a larger sample size, and to evaluate the impact of this on student outcomes.

Recommendations

Students who would not consider enrolling in online courses have some

distinct concerns about the learning experience and student outcomes in that environment. These concerns should be addressed. Further study should be conducted to determine if student outcomes are similar in day and evening on-campus courses and online courses. There is some concern that online courses might undermine enrollment in evening classes. This should also be explored further, in part, to determine if this is a "problem" or not.

This study introduced significant bias through the process of selecting participants in the surveys. This bias can be minimized by conducting a larger study with more teachers and students participating, and by making both on-campus and online participation mandatory. A larger number of participating online students is essential to validate these preliminary findings.

Additional content validity can be achieved by expanding the discussion of evaluation goals to more of the stakeholders. It would also be helpful to establish more criteria validity by relating student evaluation of their engagement in the course with actual performance. Predictive correlation should be conducted to ascertain whether student engagement is predictive of success in online courses. Further study could also explore what student engagement is, and whether it is more or less important than student study habits or teacher influence. These findings would be very important in guiding future development of online programs.

Online Needs Assessment Survey

1. Gender

_ Male _ Female

2. Marital

_ Single _Married

3. Children under 18?

_ Yes _ No

4. Occupational Status

_ Full time
_ Part time
_ Not employed

5. Educational Status

_ Full time
_ Part time
_ Not a student

6. Types of Classes You Have Taken

(check all that apply)
_ Regular classroom courses
_ Correspondence courses
_ Telecourses
_ Online courses

7. Education Level (completed)

_ High school diploma
_ AA/AS Degree
_ Certificate Program
_ BA/BS Degree
_ MA/MS Degree
_ Ed.D./Ph.D. Degree
_ Other

8. Age

_ 17 or under
_ 18 - 22
_ 23-25
_ 26-35
_ 36-45
_ 46 or over

9. Ethnic Origin

_ American Indian or Alaskan Native
_ Asian or Pacific Islander
_ Black, non-Hispanic
_ Hispanic
_ White, non-Hispanic
_ Other _____

10. Experience Using Computers

(check all that apply)
_ Beginner
_ Regular use of one or two applications
_ Regular use of email
_ Regular Web Access
_ Experienced computer user
_ Other _____

11. Attitude About Using Computers

(check all that apply)
_ I prefer not to use a computer
_ I don't mind using a computer
_ I feel awkward using a computer
_ I enjoy using a computer
_ I would like to learn more
_ Other _____

13. Is there any reason for you to consider taking a college course now? Please explain.

14. If a college course that you are interested in taking was offered during the day, would you be able to take it? Why or why not?

If it was offered at night would you be able to take it? Why or why not?

If it was offered online would you be able to take it? Why or why not?

15. If a college course that you are interested in taking was offered online, would you consider taking it? What other issues would enter into your decision?

16. What do you think is the most important factor influencing your success in a course that you might take on campus? (i.e. the teacher, your study habits, the textbook, etc.) Why?

17. What do you think is the most important factor influencing your success in a course that you might take online? Why?

18. Are there any courses you would consider taking online, if you had the computer equipment at home and knew how to use it for taking courses? If yes, please describe the courses. If no, please explain why.

Course Evaluation Survey

1. Gender

_ Male _ Female

2. Marital

_ Single _ Married

3. Children under 18?

_ Yes _ No

4. Occupational Status

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_ Part time
_ Not employed

5. Educational Status

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6. Types of Classes You Have Taken

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_ Other

8. Age

_ 17 or under
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_ 23-25
_ 26-35
_ 36-45
_ 46 or over

9. Ethnic Origin

_ American Indian or Alaskan Native
_ Asian or Pacific Islander
_ Black, non-Hispanic
_ Hispanic
_ White, non-Hispanic
_ Other _____

10. Why did you enroll in this section of the course? (check all that apply)

_ Schedule is good for me
_ Teacher I wanted
_ Friends are in the same class
_ Other sections were full
_ This was the only section offered
_ Other reasons _____

11. What did you like best about this course?

12. What would you recommend changing in this course?

13. If you have taken both on campus and online courses, how would you compare the two experiences?

	Strongly Agree	Agree	Disagree	Strongly Disagree
14. I enjoyed taking this course.	___	___	___	___
15. This course engaged me in the subject matter and made me want to study it more.	___	___	___	___
16. I had sufficient interaction and communication with my instructor.	___	___	___	___
17. I had sufficient interaction and communication with other students.	___	___	___	___
18. The course components were well-organized and effective.	___	___	___	___
19. The course workload was appropriate.	___	___	___	___
20. I would recommend this course to a friend.	___	___	___	___

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